AMENDMENTS TO THE CLAIMS

This listing of claims, in which claim 1 is amended, will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A write line structure for a magnetic memory device having a magnetic field sensitive memory cell, comprising:

a write conductor having a front surface adjacent the memory cell, a back surface and two sides surfaces;

a cladding layer adjacent the back surface, the two sides surfaces and a portion of the front surface of the write conductor, the cladding layer including a layer of magnetic material, wherein the cladding layer adjacent the front surface of the write conductor forms two magnetic pole pieces, the pole pieces spaced from each other by a distance less than a width of the memory cell.

2. (Original) The write line structure of claim 1, further comprising a barrier layer between the write conductor and the layer of magnetic material.

3-7. (Canceled)

8. (Previously Presented) The write line structure of claim 1, wherein the magnetic memory cell is spaced from the pole pieces.

9. (Previously Presented) The write line structure of claim 1, wherein the magnetic memory cell is in contact with the pole pieces.

10. (Original) The write line structure of claim 1, wherein the cladding layer has a thickness in the range of 1 to 50 nm.

11. (Original) The write line structure of claim 1, wherein the cladding layer has a thickness in the range of 5 to 15 nm.

12. (Original) The write line structure of claim 1, wherein the magnetic material is selected from the group consisting of NiFe, CoFe, Co, Fe, FeN, CoZrNb, CoTaNb, and CoHfNb.

13. (Original) The write line structure of claim 1, wherein the memory cell is a spin dependant tunneling device.

14. (Original) The write line structure of claim 1, wherein the memory cell is a spin valve device.

15. (Original) The write line structure of claim 1, wherein the memory cell is a giant magnetoresistive device.

16. (Previously Presented) A write line structure for a magnetic memory cell, comprising:

a write conductor having a front surface facing the memory cell, a back surface and two sides surfaces, the write conductor having a first width;

a cladding layer disposed adjacent a portion of the front surface of the write conductor, the cladding layer terminating at first and second poles adjacent the front surface of the write conductor, the first and second poles separated from each other by a second width; and

a data storage layer operatively positioned adjacent the cladding layer, the data storage layer having a third width;

wherein the second width is less than the third width.

17-18. (Canceled)

19. (Original) The write line structure of claim 16, wherein the cladding layer includes a layer of magnetic material.

20. (Original) The write line structure of claim 16, wherein the cladding layer is further disposed adjacent the back surface and two sides surfaces of the write conductor.

21. (Original) The write line structure of claim 16, wherein the poles are tapered.

22-45. (Canceled)

46. (Previously Presented) A magnetic memory device comprising:

a magnetic field sensitive memory cell;

a write conductor having a front surface adjacent the memory cell;

a cladding layer adjacent at least a portion of the front surface of the write conductor, the cladding layer defining two pole pieces spaced from each other by a distance less than a width of the memory cell.

47. (Previously Presented) The magnetic memory device of claim 46, wherein the pole pieces are spaced from each other by a distance that is less than a minimum feature size of a lithography process used to form the magnetic memory device.

48. (Previously Presented) The magnetic memory device of claim 46, wherein ends of the pole pieces are shaped to concentrate a magnetic field emanating from the poles.

49. (Previously Presented) A magnetic memory device comprising:

a magnetic field sensitive memory cell;

a write conductor having a front surface adjacent the memory cell, a back surface and two sides surfaces;

a cladding layer adjacent the back surface, side surfaces and a portion of the front surface of the write conductor, the cladding layer defining two pole pieces adjacent the front

surface of the write conductor, where the cladding layer has a decreasing thickness near ends of the pole pieces.

50. (Previously Presented) The magnetic memory device of claim 49, wherein the ends of the pole pieces are spaced from each other by a distance less than a width of the memory cell.

51. (Previously Presented) The magnetic memory device of claim 49, wherein the thickness of the cladding layer decreases in a continuous manner.

52. (Previously Presented) The magnetic memory device of claim 49, wherein the thickness of the cladding layer decreases in a stepped manner.

53. (Previously Presented) A magnetic memory device comprising:

a magnetic field sensitive memory cell;

a write conductor having a front surface adjacent the memory cell;

a cladding layer adjacent at least a portion of the front surface of the write conductor, the cladding layer defining two pole pieces spaced from each other by a distance less than a minimum feature size of a lithography process used to form the magnetic memory device.

54. (Previously Presented) A magnetic memory device comprising:

a first conductor;

a second conductor;

a data storage layer operatively positioned between the first conductor and the second conductor, the data storage layer having a first width in a first direction and a second width in a second direction, the first and second conductors crossing the data storage layer in substantially the first and second directions, respectively;

a first cladding layer disposed about the first conductor and terminating at a first set of poles, the first set of poles separated by a space less than the second width of the data storage layer; and

a second cladding layer disposed about the second conductor and terminating at a second set of poles, the second set of poles separated by a second space less than the first width of the data storage layer.

55. (Previously Presented) The magnetic memory device of claim 54, wherein a selected one of the first direction or the second direction is parallel with an easy axis of the data storage layer.

56. (Previously Presented) The magnetic memory device of claim 54, wherein the data storage layer is a magnetoelectric device.

57. (Previously Presented) The magnetic memory device of claim 54, wherein the first and second directions are substantially orthogonal to each other.

58. (Previously Presented) The magnetic memory device of claim 54, wherein the space separating the first set of poles and the space separating the second set of poles are less than a minimum feature size of a lithography process used to form the magnetic memory device.

59. (Previously Presented) The magnetic memory device of claim 54, wherein ends of the first and second sets of poles are shaped to concentrate a magnetic field emanating from the poles.